

Exhibit 2

10	20	30	40	50
ACAAA CAGGA AGGAC AGCAG GCTCT GGCAG CCAGA AGCCT GTGGC CCCAA				
TGTTT GTCCT TCCTG TCGTC CGAGA CCGTC GGTCT TCGGA CACCG GGGTT				

60	70	80	90	100
				*
GCTGG CAGGA TGGCC CCCTT CCTGC AGGTC CCCCC CAGCC TTCTG GGTTT				
CGACC GTCCT ACCGG GGGAA GGACG TCCAG GGGGT GTCGG AAGAC CCAAG				

110	120	130	140	150
CTGAC ACGAG AGAAG AGGTG GGGCG GGGTG AAGTG AACTC TGAAG CCAAA				
GACTG TGCTC TCTTC TCCAC CCCGC CCCAC TTCAC TTGAG ACTTC GGTTT				

160	170	180	190	200
				*
ATGTG ACTCT CCTGG GGTCA CCAGC TTGGG GAGAG GTGAA GAAAG ATGCC				
TACAC TGAGA GGACC CCAGT GGTCT AACCC CTCTC CACTT CTTTC TACGG				

210	220	230	240	250
GGGGC GGAAA CAAAG GGGCA GATAT CACTA TGGTT ATCTT ACTAA GCACA				
CCCCG CCTTT GTTTC CCCGT CTATA GTGAT ACCAA TAGAA TGATT CGTGT				

1082

260	270	280	290	300
				*
GAGTA ACTGA AAAAG CAAGG GTACC GCTGC CCACC TCGTG CCCAC CTTAC				
CTCAT TGACT TTTTC GTTCC CATGG CGACG GGTGG AGCAC GGGTG GAATG				

310	320	330	340	350
GTTAT ACCTC AAACC AGCTA GATAG TTTCT GATGG CACCC ATACC CTCCC				
CAATA TGGAG TTTGG TCGAT CTATC AAAGA CTACC GTGGG TATGG GAGGG				

1042

360	370	380	390	400
				*
TTCCC CTTTA GGCAT TGCAG AAGCT CTCCA CCACA ATCTG GAAGT TATAC				
AAGGG GAAAT CCGTA ACGCG TTCGA GAGGT GGTGT TAGAC CTTCA ATATG				

410	420	430	440	450
CCTGC GAGGG GATGG GCAGG GCACT TCTGA GGTGC CAATC AGCCT GCACT				
GGACG CTCCC CTACC CGTCC CGTGA AGACT CCACG GTTAG TCGGA CGTGA				

460	470	480	490	500
CGCCT CTGCC CTGGC CATGG CACTG CTGTC AGTTT CTTGG TACCT GTCTC				
GCGGA GACGG GACCG GTACC GTGAC GACAG TCAAA GAACC ATGGA CAGAG				

510	520	530	540	550
AACAG CAGCC TTGTC ACGTG AGACT ATGGC TGGCG GTGGG GGTGG GGGCA				
TTGTC GTCGG AACAG TGCAC TGTGA TACCG ACGCG CACCC CCACC CCCGT				

560	570	580	590	600
				*
GGAAT CCTAG AAGCA CAGGA GTGAC ATAGG GTCGG GTCGG GCAGA GCGAA				
CCTTA GGATC TTCGT GTCCT CACTG TATCC CAGCC CAGCC CGTCT CGCTT				

610	620	630	640	650
GTGTA GGAGG TGATC CCAAA AGGGA TGCTG GGGAC GATCT GGCCA AACT				
CACAT CCTCC ACTAG GGGTT TCCCT ACGAC CCCTG CTAGA CCGGT TGTGA				

660	670	680	690	700
				*
GTCCT CCCAT TCAAA ACTGC CAGTC TGGAG CTCTG GGACA TGGAC AAGCC				
CAGGA GGGTA AGTTT TGAGG GTCAG ACCTC GAGAC CCTGT ACCTG TTCGG				

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710 720 730 740 750  
 AGGCC TGCTA TTCTC CATA C AGGGC TCCAT AGTGT CTGGC TCAGC AGAGT  
 TCCGG ACGAT AAGAG GTATG TCCCG AGGTA TCACA GAACG AGTCG TCTCA  
 760 770 780 790 800  
 GGGGG ATCTG GTGGG GATGG AGGAA GCTTA GCTAA AAGCT TTGTA TAGGC  
 CCCCC TAGAC CACCC CTACC TCCTT CGAAT CGATT TTCGA AACAT ATCCG  
 810 820 830 840 850  
 TGAAG CTCTG AGTGA CCCTG CTGGG CCACC CTACC CTGGT CTGGG CTGGG  
 ACTTC GAGAC TCACT GGGAC GACCC GGTGG GATGG GACCA GACCC GACCC  
 860 870 880 890 900  
 TCATT GCATC CCCAG ATTGG AAGGC TTGGT GAGAT GGAGA GGAAC CTGG  
 AGTAA CGTAG GGGTC TAACC TTCCG AACCA CTCTA CCTCT CCTTG GAACC  
 910 920 930 940 950  
 CTACA AGCTA TAGCT TTGCC CACCA GAGCC TGCTG GAGGG GAATC AAACA  
 GATGT TCGAT ATCGA AACGG GTGGT CTCGG ACGAC CTCCC CTTAG TTTGT  
 960 970 980 990 1000  
 AGCCT GGACC TGAGG CTGGG ACTAG CTTTC CTGTT TCTGG AGTGG ATGCC  
 TCGGA CTGG ACTCC GACCC TGATC GAAAG GACAA AGACC TCACC TACCG  
 1010 1020 1030 1040 1050  
 AACCC CTTGC CCACC AGCCT GCCTG TCCAC GCCAG GGACA CACAG ACTCC  
 TTGGG GGACG GGTGG TCGGA CGGAC AGGTG CGGTC CCTGT GTGTC TGAGG  
 1060 1070 1080 1090 1100  
 TTCCC TTTCC AGACT GGAAA GCCCC CTCCT GGGAG AGCAG GAAGG AAGCA  
 AAGGG AAAGG TCTGA CCTTT CGGGG GAGGA CCCTC TCGTC CTTCC TTCGT  
 1110 1120 1130 1140 1150  
 ACCTG CAACT CTTCC AGCCC TGGAC CTTGG GCTGA ACCTA CAGTT CAAGG  
 TGGAC GTTGA GAAGG TCGGG ACCTG GAACC CGACT TGGAT GTCAA GTTCC  
 1160 1170 1180 1190 1200  
 TTTGT ATGCT CACAG GTCTT GGCAG GGAAA GATAA GAATC CCCAG GGCAC  
 AAACA TACGA GTGTC CAGAA CCGTC CTTTT CTATT CTTAG GGGTC CCGTG  
 1210 1220 1230 1240 1250  
 CCTCC CCCCC GCCCC CCAGT CCACT GCAGG TAGCT CCTGG GTCTG CCCTT  
 GGAGG GGGGG CGGGG GGTCA GGTGA CGTCC ATCGA GGACC CAGAC GGGAA  
 1260 1270 1280 1290 1300  
 CAGGG CAAGT GCTGA CGCTC CATCA GACTG TGATG GGGCC CTTTT CTGAG  
 GTCCC GTTCA CGACT GCGAG GTAGT CTGAC ACTAC CCCGG GAAAA GACTC  
 1310 1320 1330 1340 1350  
 GATGA CAATT CTGAG AACAA GGCAT TTTTT TAGAG GTGGC AGAAC AGCAT  
 CTACT GTTAA GACTC TTGTT CCGTA AAAAG ATCTC CACCG TCTTG TCGTA  
 1360 1370 1380 1390 1400  
 TTTGT GATGC CCGAG GATCT GGGAG CACAG GTCCA GCTTA ATGAG GGATT  
 AAACA CTACG GGCTC CTAGA CCCTC GTGTC CAGGT CGAAT TACTC CCTAA

1410 1420 1430 1440 1450  
 GGAGG AAGTG GGTAT CATCA TTACA GGGAG GGGCC TCTGT GGCCT CCTGG  
 CCTCC TTCAC CCATA GTAGT AATGT CCCTC CCCGG AGACA CCGGA GGACC

1460 1470 1480 1490 1500  
 \*  
 GAAAA TGCAG TTGCT CTCTT TGGGT GGCCT GGGGT TGTGT GGTGG GCAGA  
 CTTTT ACGTC AACGA GAGAA ACCCA CCGGA CCGGA ACACA CCACC CGTCT

1510 1520 1530 *9077* 1540 1550  
 GGACG GAGGT GCTCA TTGGG ~~GAGAG~~ ~~GGATC~~ ~~ACTTC~~ TGCTC AGAGT GCTCG  
 CCTGC CTCCA CGAGT AACCC CCTTC CCTAG TGAAG ACGAG TCTCA CGAGC

1560 1570 1580 1590 1600  
 \*  
 CAAGG GCCTT TCCTT TTCCT GAAGG CAAGC AGGCC TCCTC CTCCT CCTCT  
 GTTCC CGGAA AGGAA AAGGA CTTCC GTTCG TCCGG AGGAG GAGGA GGAGA

1610 1620 1630 1640 *3445* 1650  
 TCCTC CTTCT CCTCT TCCTC CTCTT TCTCC ATATG CCTAG CTGGT CATT  
 AGGAG GAAGA GGAGA AGGAG GAGAA AGAGG TATAC GGATC GACCA GTAAA

1660 1670 1680 1690 1700  
 \*  
 CTAGG GACCA GCATG GTTGG GAAGG GGGCC TTGTC TTGGC CTTCC TCTTG  
 GATCC CTGGT CGTAC CAACC CTTCC CCCGG AACAG AACC GAGG AGAAC

1710 *8953* 1720 1730 1740 1750  
 TCTCA ATTCC CTCTT TGAGC AGAAG ACGGG GTGGG TGGGG TAGGA TTGGA  
 AGAGT TAAGG GAGAA ACTCG TCTTC TGCCC CACCC ACCCC ATCCT AACCT

*20-11* 1760 1770 1780 1790 1800  
 \*  
 TAGTG GTTGA TGCCA AAGAT TGAAG GGGTA GGGCG GGGCA GAAGT GGGAA  
 ATCAC CAACT ACGGT TTCTA ACTTC CCCAT CCCGC CCCGT CTTCA CCCTT

1810 1820 1830 1840 1850  
 GGTCC CTGGC TTCCT CACCT TGGTA GATGG TGAGG AGCCC CAGAG GTTGA  
 CCAGG GACCG AAGGA GTGGA ACCAT CTACC ACTCC TCGGG GTCTC CAACT

1860 1870 1880 1890 1900  
 \*  
 GCTGA GCAGC AGCTG TGATT TCAGG GTGCC TCTGT TGGAG AGGCT GCTGT  
 CGACT CGTCG TCGAC ACTAA AGTCC CACGG AGACA ACCTC TCCGA CGACA

1910 1920 1930 *8904* 1940 1950  
 GATTT GAAAA TCTTC TTTCC TTGGT GACAA TTCCA GAAGG CTCCA GATGA  
 CTAAA CTTTT AGAAG AAAGG AACCA CTGTT AAGGT CTTCC GAGGT CTACT

1960 1970 1980 1990 2000  
 \*  
 ATTGT ATTGG TGAGT GCCTG GCCCT TAAGC AGTCC CAGCT GGGGA TGATG  
 TAACT TAAAC ACTCA CGGAC CGGGA ATTCT TCAGG GTCGA CCCCT ACTAC

2010 2020 2030 2040 2050  
 GGGAT TTATG GGTGT CCCTG AGCCT AGGGT GACAG GGCCT CTCCT TTTTT  
 CCTA AATAC CCACA GGGAC TCGGA TCCCA CTGTC CCGGA GAGGA AAAAA

2060 2070 2080 2090 2100  
 \*  
 TTTTA TTCTG CTTCA GGGTA CCACC CCACC AGGAG GCTGC GGGCC TGGGG  
 AAAAT AAGAC GAAGT CCAT GGTGG GGTGG TCCTC CGACG CCCGG ACCCC

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1076  
2110 2120 2130 2140 2150  
CGGEC TAGCT GGAGG AGCAA CATTC ATGTT AATTT GGTTT TTCTG GCTGT  
GCGGG ATCGA CCTCC TCGTT GTAAG TACCA TTAAA CCAA AAGAC CGACA

2160 2170 2180 2190 2200  
\*  
GGGGA TCAGC TCCTG GAAGT GCCCC TGTGC CTCAG TCCAC ACTCA CCATC  
CCCCT AGTCG AGGAC CTTCA CGGGG ACACG GAGTC AGGTG TGAGT GGTAG

2210 8875 2220 2230 2240 2250  
CTTAT CTGGC ACTGG CCTTT CACCA ACCGG CCGCC AGAGC TACCT GGTGA  
GAATA GACCG TGACC GGAAA GTGGT TGGCC GCGCG TCTCG ATGGA CCACT

2260 2270 2280 2290 2300  
\*  
CACCT GCACT CGCTA TGGCA TGGCC AGCTG CCGTC TGAGT GCTAA CCGGA  
GTGGA CGTGA GCGAT ACCGT ACCGG TCGAC GGCAG ACTCA CGATT GGCCT

2310 2320 2330 2340 2350  
GCCTG CTAGC CAGTG CTGAT GCTGT GGTCT TCCAG CACCG TGAGC TGCAA  
CGGAC GATCG GTCAC GACTA CGACA CCAGA AGGTG GTGGC ACTCG ACGTT

2360 2370 2380 2390 2400  
\*  
ACCCG GCAAT CTCTC CTACC CCTGG ACCAG AGGCC ACACG GACAG CCTTG  
TGGGC CGTTA GAGAG GATGG GGACC TGGTC TCCGG TGTGC CTGTC GGAAC

8851 2410 2420 2430 2440 2450  
GGTCT GGGCC TCCAT GGAAT CGCCC AGTAA TACCC ATGGT CTCCA TCGCT  
CCAGA CCCGG AGGTA CCTTA GCGGG TCATT ATGGG TACCA GAGGT AGCGA

2460 2470 2480 2490 2500  
\*  
TCCGG GGCAT CTTCA ACTGG GTGCT GAGCT ATCGG CGTGA TTCAG ATATC  
AGGCC CCGTA GAAGT TGACC CACGA CTCGA TAGCC GCACT AAGTC TATAG

2510 2520 2530 2540 8771 2550  
TTTGT ACCCT ACGGT CGCTT GGAGC CTCTC TCTGG GCCCA CATCC CCACT  
AAACA TGGGA TGCCA GCGAA CCTCG GAGAG AGACC CGGGT GTAGG GGTGA

2560 2570 2580 2590 2600  
\*  
ACCGG CCAAA AGCAG GATGG CTGCC TGGGT GATCA GCAAT TTCCA GGAGC  
TGGCC GGTTC TCGTC CTACC GACGG ACCCA CTAGT CGTTA AAGGT CCTCG

2610 2620 2630 2640 2650  
GGCAG CAGCG TGCAA AGCTG TACCG GCAGC TGGCC CCTCA TCTGC AGGTG  
CCGTC GTCGC AGGTT TCGAC ATGGC CGTCG ACCGG GGAGT AGACG TCCAC

2660 2670 2680 2690 2700  
\*  
GATGT GTTCG GTCGC GCCAG CGGAC GGCCC CTATG CGCTA ATTGT CTGCT  
CTACA CAAGC CAGCG CGGTC GCCTG CCGGG GATAC GCGAT TAACA GACGA

2710 2720 2730 2740 2750  
GCCCA CTTTG GCCCG GTACC GCTTC TACCT GGCCT TTGAG AACTC ACACG  
CGGGT GAAAC CGGGC CATGG CGAAG ATGGA CCGGA AACTC TTGAG TGTGC

2760 2770 2780 2790 2800  
\*  
ATCGG GACTA CATCA CTCAG AAGTT CTGGC GCAAT GCCCT GGCGG CTGGT  
TAGCC CTGAT GTAGT GACTC TTCAA GACCG CGTTA CGGGA CCGCG GACCA

8715

2810 2820 2830 2840 2850  
 GCTGT ACCCG TGGCG CTGGG ACCTC CTCGG GCCAC CTACG AGGCT TTTGT  
 CGACA TGGGC ACCGC GACCC TGGAG GAGCC CGGTG GATGC TCCGA AAACA

2860 2870 2880 2890 2900  
 \*  
 GCCAC CAGAT GCCTT TGTAC ACGTG GACGA CTTCA GCTCT GCCCG TGAAC  
 CGGTG GTCTA CGGAA ACATG TGCAC CTGCT GAAGT CGAGA CGGGC ACTTG

8848 2910 2920 2930 2940 2950  
 TGGCT GTCTT CCTCG TCAGC ATGAA TGAGA GTCGT TATCG TGGCT TCTTT  
 ACCGA CAGAA GGAGC AGTCG TACTT ACTCT CAGCA ATAGC ACGCA AGAAA

2960 2970 2980 2990 3000  
 GCTTG GCGAG ACCGG CTCCG TGTGC GGCTC CTGGG TGA<sup>8848</sup>CT GGAGG GAGCG  
 CGAAC CGCTC TGGCC GAGGC ACACG CCGAG GACCC ACTGA GCTCC CTCGC

3010 3020 3030 3040 3050  
 CTTCT GCACC ATCTG TGCCC GCTAC CCTTA CTTGC CCCGC AGCCA GGTCT  
 GPAGA CGTGG TAGAC ACGGG CGATG GGAAT GAACG GGGCG TCGGT CCAGA

3060 3070 3080 3090 3100  
 \*  
 ATGAA GACCT TGAAA GCTGG TTCCA GGCTT <sup>STOP</sup> GAACT CCTGC TGCTG GGAGA  
 TACTT CTGGA ACTTT CGACC AAGGT CCGAA CTTGA GGACG ACGAC CCTCT

3110 3120 3130 3140 3150  
 GGCTG GATGG GTGGG AGACT GATGT TGAAA CCAA GAGCT GGGCA TCCAG  
 CCGAC CTACC CACCC TCTGA CTACA ACTTT GGTTT CTCGA CCGGT AGGTC

3160 3170 3180 3190 3200  
 \*  
 GCTTT TGGTC ACCAT GGCAC TACCC CAAGG CTTTT CCTGT TCAGT GAGCA  
 CGAAA ACCAG TGGTA CCGTG ATGGG GTTCC GAAAA GGACA AGTCA CTCGT

8405 3210 3220 3230 3240 3250  
 GGAAT TCAGG ATATA AGGAG AAGAC TGGGC TGAGA TACCC TGGTG GGCTT  
 CCTTA AGTCC TATAT TCCTC TTCTG ACCCG ACTCT ATGGG ACCAC CCGAA

3260 3270 3280 3290 3300  
 \*  
 TAGAG TAGGG GCCCA GGATA AGAGA CAATG AATTA ATGAG GAGCA TATGG  
 ATCTC ATCCC CGGGT CCTAT TCTCT GTTAC TTAAT TACTC CTCGT ATACC

3310 3320 3330 3340 3350  
 GGAAG GTGGC TGAGG GTCCC TGACT TACCT TGACC CATGG CTGAA GGCTC  
 CCTTC CACCG ACTCC CAGGG ACTGA ATGGA ACTGG GTACC GACTT CCGAG

3360 3370 3380 3390 3400  
 \*  
 CATGC CCATG GCTGG AGCTG GGACC CTACA CTTCT ATAGT CAAGG TGCTT  
 GTACG GGTAC CGACC TCGAC CCTGG GATGT GAAGA TATCA GTTCC ACGAA

3410 8954 3420 3430 3440 3450  
 AGCCT CAAGG TTGCA GATGC ACCCT CTAGT ACTCT GGGTG CAGAC TGTAC  
 TCGGA GTTCC AACGT CTACG TGGGA GATCA TGAGA CCCAC GTCTG ACATG

3460 3470 3480 3490 3500  
 \*  
 ACTGG GCGCA GGGGG TTGTG GAAGG ACAGT GCAGA TGATT CTGGG CTTTT  
 TGACC CGCGT CCCCC AACAC CTTCC TGTCA CGTCT ACTAA GACCC GAAAA

Eco17 III

582c

3510	3520	3530	3540	3550
GACAC	CACAG	TTCCC	CCAGG	GAAAG
AGGCA	CTACT	AATAA	AAACA	CTGAC
CTGTG	GTGTC	AAGGG	GGTCC	CTTTC
TCCGT	GATGA	TTATT	TTTGT	GACTG
3560	3570	3580	3590	
AGAAA	TCTCC	TGGTC	AAGTC	TGTTA
GGCAG	CAGAG	CTCGA	ATTC	
TCTTT	AGAGG	ACCAG	TTCAG	ACAAT
CCGTC	GTCTC	GAGCT	TAAG	

←  
cDNA